

Title (en)  
System and method for shape reconstruction from optical images

Title (de)  
Anordnung und Verfahren zur Gestaltrekonstruktion aus optischen Bildern

Title (fr)  
Système et procédé de reconstruction de forme à partir d'images optiques

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Application  
**EP 07001634 A 20031103**

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Abstract (en)  
Reconstructing the shape of the surface of an object (30) in greater than two dimensions is performed using a noise-tolerant reconstruction process and/or a multi-resolution reconstruction process. The noise-tolerant reconstruction process can be a Bayesian reconstruction process that adds noise information representing the noise distribution in optical image(s) of the object to surface gradient information (116) estimated (510) from the images to determine (520) surface height information (125) that defines the shape of the surface of the object (30) in greater than two dimensions. In the multi-resolution reconstruction process, for each resolution of the image, the surface gradient information (116) is estimated (630) and the surface height information (125) is calculated (640) using the estimated surface gradient information (116). To obtain the final surface height map, the surface height information (125) from each resolution is combined (660) to reconstruct the shape of the surface of the object (30) in greater than two dimensions. The multi-resolution reconstruction process can be used with the Bayesian reconstruction process or with another decomposition process, such as a wavelet decomposition process.

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Citation (search report)

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